

Eroding Great Plains Badlands Sparse Vegetation

COMMON NAME Eroding Great Plains Badlands Sparse Vegetation
SYNONYM Eroding Great Plains Badlands
PHYSIOGNOMIC CLASS Sparse Vegetation (VII)
PHYSIOGNOMIC SUBCLASS Unconsolidated material sparse vegetation (VII.C)
PHYSIOGNOMIC GROUP Sparsely vegetated soil slopes (VII.C.3)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (VII.C.3.N)
FORMATION Dry slopes (VII.C.3.N.b)
ALLIANCE LARGE ERODING BLUFFS SPARSE VEGETATION ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 3

USFWS WETLAND SYSTEM

RANGE

Theodore Roosevelt National Park

This type is widespread throughout Theodore Roosevelt National Park and is one of the most sparsely vegetated or unvegetated types examined. It is probably best represented on steep, south facing badlands slopes.

Globally

This type is found in the badlands formations of the western Great Plains of the United States and Canada.

ENVIRONMENTAL DESCRIPTION

Theodore Roosevelt National Park

Badlands type topography is the product of a long history of erosion. Stratified beds of soft shales that are extremely susceptible to erosion characterize these steep, almost vertical, slopes. The combined effects of low infiltration, high runoff, very limited soil development, and south facing aspect severely restrict vegetation development on these sites.

Globally

Badlands are produced by a combination of factors, including elevation, type of rainfall, carving action of streams, and a particular material. Badlands are basically a type of mature dissection with a finely-textured drainage pattern and steep slopes. Badlands can only form where the land lies well above its local base level. The land must also be easily erodable, or vegetation cover will stabilize the surface. An arid climate will also discourage vegetation growth and will tend to have infrequent, but torrential, rains with great eroding action. In the Great Plains, the geologic formations are from Cretaceous shales, Oligocene siltstones, sandstones, and clayey mudstones (Von Loh et al. 1999). The soils in the Great Plains badlands are generally poorly consolidated clays with bands of sandstone or isolated conglomerates (Froiland 1990).

MOST ABUNDANT SPECIES

Theodore Roosevelt National Park

Stratum Species

Information not available

Globally

Stratum Species

CHARACTERISTIC SPECIES

Theodore Roosevelt National Park

Information not available

Globally

Eriogonum pauciflorum, *Grindelia squarrosa*, *Gutierrezia sarothrae*

VEGETATION DESCRIPTION

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This type is virtually devoid of any vegetation, typically less than 1% foliar cover. The few plants that may be present (*Gutierrezia sarothrae*, *Atriplex confertifolia*, *Distichlis spicata*) are less than 15 cm tall and widely spaces.

Globally

The clay soils of the badland eroding slopes and walls are almost devoid of vegetation. Widely scattered individuals of *Grindelia squarrosa*, *Gutierrezia sarothrae*, or *Eriogonum pauciflorum* may be present (Froiland 1990).

USGS-NPS Vegetation Mapping Program
Theodore Roosevelt National Park

CONSERVATION RANK G4G5.

DATABASE CODE CEGL002050

SIMILAR ASSOCIATIONS

Artemisia longifolia Badlands Sparse Vegetation

Badlands Sparse Vegetation Complex (This complex includes this association.)

Eriogonum pauciflorum - *Gutierrezia sarothrae* Badlands Sparse Vegetation

Shale Barren Slopes Sparse Vegetation

COMMENTS

REFERENCES

Froidland, S.G. 1990. Natural history of the Black Hills and Badlands. The Center for Western Studies, Augustana College, Sioux Falls, South Dakota. 225 pp.

Frolick, A.L., and F.D. Keim. 1933. Native vegetation in the prairie hay district of north central Nebraska. Ecology 14:298-305.

Steinauer, G. and S. Rolfmeier. 1997. Terrestrial natural communities of Nebraska. Draft - October 28, 1997. Nebraska Game and Parks Commission, Lincoln, NE. 117 p.

Von Loh, J., D. Cogan, D. Faber-Langendoen, D. Crawford, and M. Pucherelli. 1999. USGS-NPS Vegetation Mapping Program, Badlands National Park, South Dakota (Final Report). Technical Memorandum No. 8260-00-02, U.S. Bureau of Reclamation Technical Service Center. Denver CO.